

THE HOME-LIFE OF
THE SPOONBILL

THE STORK AND SOME HERONS

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THE HOME-LIFE OF THE
SPOONBILL

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THE HOME-LIFE

OF THE

SPOONBILL

THE STORK AND SOME HERONS

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THE HOME-LIFE OF THE SPOONBILL.

It was about the middle of June, 1909, that we found ourselves rowing through the endless channels and innumerable lagoons of a great swamp in quest of Spoonbills. Had we been left to our own devices we might well have wandered through that marsh for days in fruitless search for the breeding-ground, but with old Jan Hoetmer as a guide we knew that we were going as directly towards our goal as the meandering of the waterways would permit.

On the way we constantly passed small colonies of Black Terns, the dainty little birds rising from their small floating nests at our approach, and scolding us with their shrill cries until the boat had left them far behind.

At last it was obvious, from the number of birds constantly sweeping overhead, that we were now in the vicinity of the Spoonbills' nursery, but of its exact whereabouts there was not the slightest indication. On every hand the meres and channels were surrounded by the same impenetrable wall of reeds, rising six feet or more above the surface, and beyond or through which nothing could be seen. It was found quite impossible to force the boat through by any quicker or less laborious method than that of cutting away those reeds immediately in its course, and we had therefore to content ourselves by following such more or less open water as could be found. Gradually we thus worked our way into the great reed-bed, peering through the forest of stems and craning our necks to try to catch a glimpse of something white—either nest or bird. Suddenly, with a rattle and a rush of great wings, the colony rose thirty or forty yards

ahead of us. Until this moment we had not heard a sound or received the slightest indication of the birds' presence. It was the "squork" of a Purple Heron which had broken the stillness, and seemed to give the signal for the general alarm. Now all was tumult and confusion, the great white Spoonbills sweeping past in every direction, their necks outstretched and legs trailing straight out behind; and as we poled the boat on the Purple Herons flapped noisily out of the reeds, joining the company wheeling overhead.

We were now on the outskirts of the colony, and here and there, looming white through the reeds, could be made out the great flat nests. They were very simple structures, not unlike a large edition of that made by our Common Coot. Built on the stumps of last year's broken reeds (Plate 1), they generally stood some eighteen inches above the water. Sometimes, however, their bases touched the surface, in which case they were sufficiently thick and bulky to raise the cup high and dry above its sodden foundation. All were very much alike, the stems of dead reeds with the few broad leaves attached to them seeming to be the only building material, and it was noticeable that such of last year's reeds as were standing near the nests were untouched, as though the birds were unwilling to lessen the cover screening them; though from what enemy they sought concealment was not obvious, and it was probably only an expression of their inherent desire for seclusion. Certainly, so far as could be seen, the bulk of the material had been brought from a distance, and later I often saw the birds arriving with long reeds trailing from their bills.

Cutting a way and poling the boat through the reeds, left a terrible gap, and lest this permanent and wholesale disturbance should cause the birds alarm, we decided not to penetrate further into the colony, and selected a site for the hiding-tent, which was within a workable distance of two nests, so that if for any reason one

should prove unsatisfactory there would always be the other to fall back upon without altering the position of the screen, and as events turned out it was well this precaution was observed. The fixing of the tent did not prove so easy a matter as usual. The rods forming the framework had to be thrust a long way down beneath the surface in order to reach something more substantial than mud and water, and as a result the height inside the tent was reduced by about one-half. Still, this was deemed an advantage (by those who were not going to occupy it), especially as it was pointed out that it would be necessary for the photographer to sink a like distance into the mud before finding a firm bottom! True, the more of both that was under the surface the less would there be above for the birds to see and be afraid of, and so we set about covering the tent with reeds.

Old Jan had seen us make a hiding-screen before and, remembering the tedious work of cutting the tough stems with a penknife, had brought a short-handled scythe with him, and now, while we busied ourselves with the camera, he commenced mowing with such a will that before we realised what was afoot he had half filled the boat: his mowing not tending to lessen our already ugly track through the reeds.

Having given the birds two days in which to get accustomed to the strange thing standing in their midst, we returned early on the morning of the 17th. This time, knowing exactly where the colony lay, we were just able to catch a glimpse, up the channel made by our previous progress, of a motionless white figure, which immediately after, in company with the rest of the colony, sprang into the air. On reaching the tent all was found as we had left it, and so perfectly was it hidden by reeds, thanks to Jan's scything, and so well did it harmonise with its surroundings, that we had little doubt of the birds' early return.

All being in readiness, I slipped over the side of the

boat, and creeping thigh deep in water into my dome-shaped retreat was forcibly reminded of a beaver entering its home.

Very soon after the boat had withdrawn the owners of the more distant nests began to return, and by degrees those nearer took courage or lost fear and resumed duty, until finally only my bird was absent. Hour by hour passed, and though at intervals she flew by, turning her solemn head to prolong her view of the tent after she had passed, she did not venture to alight, and I was beginning to fear for the welfare of her eggs when, without any preliminary swoops or warning, she dropped noisily on to her nest, and stood looking at the camera (Plate 2). I hardly dared to breathe, the slightest sound or movement might send her headlong from the nest, and so we stood, each eying the other, motionless and silent. I could see her chief fear lay not in the tent as a whole, but in the eye-like lens staring out at her from its side, and instead of getting more easy as time went on, her manner grew more restless, and seeing that she was about to go I decided to risk an exposure and nipped the bulb. But the slight click made by the shutter electrified her; she almost overbalanced in her hurry to depart, and with a tremendous flapping took flight, the whole colony accompanying her. My outlook from the peephole was limited to a narrow angle, and though I could not look upwards, I could hear the swish of their wings as the birds circled round and round low over the reeds, always passing immediately above my head. Those which had risen only in obedience to the alarm of others soon settled down again, but though I waited the pleasure of my bird long she did not return. Her naturally delicate nerves had received so rude a shock as to forbid her to face that staring eye again, until night compelled it, for then the alternative was the desertion of her nest!

Having given her a day's grace in which to settle down, the 19th found us early at the colony, and we were not

a little relieved to find by the warmth of the eggs that she had not deserted. Maternal instinct had proved stronger than feminine nerves. It was decided, however, in view of her timid character, to turn our attention to the other nest which the hiding-screen commanded, and the position of the camera was altered accordingly.

This nest contained two young ones about a week or ten days old. The weird little creatures spent most of their time in a semi-dormant state, and in their more wakeful moments showed little activity, crawling slowly about the nest (Plate 3), using their wings to aid the legs in pushing their heavy bodies along. The contrast they made with their graceful stately parents was most striking.

It is interesting to note that at this early stage the bill shows little of its future spatulate nature, and is, moreover, much less in proportion to the size of the head than in the adult. The corrugations, too, are only suggested, but the whole bill is thicker and more fleshy. Their legs, are very weak, and they have to content themselves with crawling, it being long after leaving the shell before they can walk about or stand upright.

In common with the young of many of the larger birds building unprotected nests, they suffer a good deal from the sun, and lie panting in a pitiable condition.

But the boat had not long left before it was obvious from the behaviour of the birds that something was wrong. None of those near returned, but kept flying round and round, looking at the tent. By a pre-arranged signal the boat was recalled, but an examination of the hiding-place failed to show anything out of order. At last it occurred to us that the Spoonbills' point of view was not ours, and that while the tent might be well hidden when viewed from every point on a level with it, it might not be so when regarded from above. Then we found that the covering of reeds from the far side of the dome-like top had slipped off as I was getting in, and no doubt it presented a conspicuous and bulky appearance in the great uniform expanse of slender reeds.

This remedied, I once more took up the *rôle* of water-rat, and re-entered the tent.

Nor had I long to wait. Very soon there was the swish and vigorous flapping of a distant bird checking its flight preparatory to alighting, and I saw the dangling legs of the returning Spoonbills as they came dropping clumsily on to their nests.

One bird almost alighted on a nest, but, catching sight of the lens, checked herself, and with a few unwieldy flaps reached another further away. Obviously uneasy in her mind, she kept peering through the reeds as though seeking something. In a few moments a second came dropping on the same nest, immediately followed by a third. Then began one of the wildest, if bloodless, scenes it is possible to imagine. The two last comers, doubtless the rightful owners of the nest, set about the first whole-heartedly, and in a moment the three were flapping wildly together. The one trying to escape; the others bent on punishment. In the narrow space around the nest there was scarcely room for one to take flight, and the three fell flapping in a mass into the water and broken reeds. Here they fought indiscriminately until exhausted, the owners of the nest as often pecking each other as the intruder, and when at length the fight was ended each was so draggled and exhausted as to find flight impossible; they just lay there, half in the water and half out, looking sorrowfully at each other. One by one they regained their breath, and struggling on to the disputed nest, which had now lost one of its eggs, with difficulty took wing. It may here be said that this was the only quarrel or disturbance that occurred, the Spoonbills throughout proving themselves the most gentle and docile of birds.

The noise of the struggle had hardly died away before there was a flapping close at hand, and in another instant my bird had dropped quietly on to her nest. She busied herself for some time rearranging the reeds at the nest

edge, and this done she performed a lengthy toilet, running her feathers through the unwieldy bill. Neither nest-building nor feather-preening could have been the object in view when that bill was fashioned, and she found it but a poor tool for either. She took not the slightest notice of her chicks, which all this time had been vainly trying to reach some more interesting part of her than the long bare legs.

The parent Spoonbills have a constant, and what to the chicks, panting for want of shade, must be a most exasperating habit, that of standing almost motionless on their nests by the half-hour together, without paying the slightest attention to or apparently even noticing the clamorous youngsters crawling at their feet (Plate 4). So frequent is this habit that I began to fear now the camera was turned away from the nest containing eggs that I should leave the marsh without securing a picture of the sitting bird, and it was with no small pleasure that towards evening I saw her bend forward until the long bill nearly reached the nest and doubling her long legs under her sit down (Plate 5).

That evening, as the boat returned, my brother took a little snap of the hiding-tent, with its inhabitant peering anxiously out, awaiting release (Plate 6), and it is interesting as showing the relative positions of the nest and screen. At the end of the channel will be noticed a light-coloured lump—the nest of Plates 1 and 2. Of course it must be understood that where open water is now seen was originally dense reeds, uniform with those standing around, the passage of the punt having broken them down.

Although the view is taken from the back of the tent, where concealment was least necessary, it must be admitted that it is far from conspicuous.

By the 23rd the colony had got so accustomed to my presence, or rather to that of the screen concealing me, that the boat now hardly reached the open mere before

some of the bolder spirits began to return. Nor was my bird long behind, and now instead of gazing mistrustfully at the lens, she seemed almost to have forgotten its existence, and when her eye did fall upon it her mien was more that of curiosity than alarm. There are personalities in birds just as in human beings, though through lack of intimacy they tend to pass unnoticed. The salient characteristics, at all events from the photo-ornithologist's point of view, are those of patience, timidity and suspiciousness. One bird in a colony may quickly return, while another, no nearer to the camera, may refuse to do so hour after hour. And so it was in this case. My present bird had thrown fear aside, while the one I first made advances to still remained fearful and suspicious, often rising hurriedly from the nest, startling her near neighbours.

My old Spoonbill was now, at the end of rather more than a week, just beginning to get into this desirable state of trustfulness, when an unfortunate accident occurred and revived her fears. As previously noted, the bottom, even three feet below the surface, was not of the best, but by doubling up the strong reeds, which were nearly as tough as cane, a fairly sound footing had been made. Perhaps this had become disarranged with long trampling, or perhaps in slightly turning my position the whole weight was thrown heavily on one leg. Be this as it may, one foot suddenly went down further into the mud, and losing my balance I lurched heavily against the side of the tent, nearly dragging the whole thing into the water. How much noise I really made I never knew, for mingling with it and completely drowning it was the roar of the startled colony as it took wing in a body.

There was something fascinating in watching these great birds as in each circuit they swept hurriedly across my narrow field of view, the rest of their course being only sensible by the swishing of their

wings. Unfortunately it was several minutes' work to readjust the camera and regain a reasonable position, and the birds, sweeping round and round overhead, would not fail to notice the shaking of the reeds and the divergent ripples radiating from the "thing" standing now none too motionless in the midst of their nursery.

That they would not soon regain composure was only to be expected after such obvious signs of life within the tent, but hour after hour passed slowly by and the colony remained in a state of turmoil and alarm, none of the nearer birds returning, while those more distant which ventured back did not stay for long together, but kept joining those on wing. Two, three, four hours and still there was little abatement in their agitation, and it seemed as if it was useless waiting longer. But just then the brilliant sunshine disappeared, and almost immediately a deep gloom fell upon everything. The bright green reeds were turned a dull leaden colour. The Reed-Warblers stopped their noisy chattering song, and the distant Purple Herons ceased to "squork"; the whole of life seemed stilled by the same power that had put out the sun. In a few moments a long rumbling peel of thunder trundled its heavy course across the marsh, and scarcely had it died away before the rain began. At first a big drop here and there, then all at once it came. Never have I known its equal. The noise made by the mingled hail and rain falling on those endless acres of broad-leafed reeds was something terrific and quite incredible, and I will confess to some alarm, for when it first broke with a great roar across the reed-bed I felt certain that a cloudburst was at hand. It poured through the hiding-tent in streams, and speedily the portion of my body above water was as wet as that beneath, and I was in that fortunate condition when further rain is a matter of supreme indifference. But

the poor drenched young Spoonbills regarded it very differently, and besides being terrified by the thunder and lightning, they seemed almost stunned by the hail, and for the first time since I had known them, squeaked, or rather, wheezed, piteously in a low key. But "it's an ill wind that blows nobody any good," and before long some Spoonbills came flying laboriously over the reeds, apparently finding flight no easy matter in the storm. They circled round once or twice, and then I heard again the swish and beating close at hand of a bird poising itself before alighting, and in another instant had the intense satisfaction of seeing my bird drop quietly on to her nest. The thought of those miserable dripping youngsters had driven fear and caution from her mind, and in her anxiety she never even glanced in the direction of the camera. But what a different bird now stood before me from that which had left six hours before ! The graceful plume-like crest now stuck out awkwardly from behind her head, and the smooth, silky plumage was now all angular and matted. The whole manner of the bird was in keeping with her dishevelled plumage. The alert and graceful carriage was of the past, and in its place had come a cowed, not to say dejected, expression. The bill and legs alone looked right ; in fact, their colour and the corrugations of the former were emphasized in the glistening wet. Then rousing herself with an effort, she gave a vigorous shake and stepped astride the chicks, and half dropping her wings and bending her long legs, she crouched over them (Plate 7).

For a time the youngsters were too miserable to acknowledge her coming, but gradually, since no more hail or cold rain reached them, they bestirred themselves. Nor did they seem satisfied with the protection she afforded them, but rising on their tottering legs tried to nestle their heads into her soft plumage. But whether it was that she did not like their little cold wet heads poking in her stomach, or that she thought she could serve them

better as umbrella than as coat, I cannot say, but certainly each time they did so she straightened her long legs, raising her body out of reach.

All this time the cock had not returned, and on looking round I saw that now all the other nests within view were each only tended by the brooding bird, while ordinarily some were always to be seen with the mate in attendance. Happening to mention this afterwards, I found that my brother had noticed a group of Spoonbills rise quietly from the reeds and make off seawards immediately before the storm began, apparently seeking to escape it.

Despite the discomfort of the situation, my old Spoonbill managed to doze off every now and then, only to be recalled with a start as the little wet heads were thrust upwards against her.

When at length the storm had passed and the sun once more stood clear above the solid white-edged clouds, its brilliance and heat seemed all the greater by contrast with the gloom and chill immediately preceding it. The great reeds steamed as though on fire. The brooding birds shook themselves out, the flying drops of water sparkling in the sunshine, and shortly mine, in company with many others, took wing and disappeared.

On her return I was glad to see the sun and flight had dried her plumage, and she was herself again; but more, that she had forgotten her fear of the lurching thing beneath the heap of reeds, and alighted without more ado or a glance in my direction.

Feeling something touch my leg I glanced down through the pale green water and saw a small pike nosing about at a loss to know what to make of my rough tweed breeches. Nor was I the only one who had noticed that young jack. Both the near birds were regarding it fixedly, and long after it had passed from my view I could follow its movements; the long bills of the ever watchful birds acting as a true indicator of its position.

It passed quite close to one of the standing birds, but though following its every movement she made no attempt to capture it, nor did we see any indication of their preying upon fish of any considerable size. Regularly each evening and often during the day, small parties were seen either making for, or returning from, the coast—apparently their favourite feeding ground—and once we came across five or six plying their bills along the shore.

After a time several of the cocks (?) returned, as if to see that all was well after the storm, and though mine circled suspiciously round for a time with outstretched craning neck, he was soon beside his mate (Plate 8). She was not a little excited at his coming, and kept up an incessant paddling, first on one foot and then on the other, in front of him, moving her bill up and down the while, obviously never doubting that after so long an absence he would not return empty-cropped. But he took not the slightest notice, and stood there day-dreaming, looking into space. Then she tried prodding him gently at the base of the neck, with no better result. Finally, with widely gaping bill and uplifted crest, she flapped her wings to and fro, almost in his face, again prodding his throat from time to time rather more forcibly than before. On this failing to move him she appeared satisfied as to his emptiness, and desisted from further entreaties. When thus excited the crest is not only raised but is expanded laterally, giving it a beautiful fan-like form. This is only reached at the climax of the excitement, and lasts but for a moment.

I have constantly differentiated between the birds as "he" or "she," but of these distinctions I am far from certain, and it must be clearly understood that such distinction is here only based on actions, and is even in contradiction to the indications of the plumage. What slight differences do exist in the appearance of the sexes may be said to consist in the varying length of the crest and the strength or richness of the colour of the ruddy

orange band at the base of the neck. It is stated, doubtlessly correctly, and after verification by dissection, that it is the cock which, following the general rule, carries these adornments in the greatest degree, but I can only say that if this be so, then of the two birds so long under my observation it was the cock which performed the duties of the mother. This, of course, would not be peculiar in itself, but when we find these duties of the sexes reversed the plumage has usually undergone a like change, the hen then carrying the finest dress. But here there was little difference in the crests, while the band of orange was certainly brighter and better defined in the bird I have referred to as "mother." Thus these birds were a contradiction to either rule, and though the differences were slight, and may possibly have been due to individual peculiarities, they are by reason of their variance with rule worthy of record. Fortunately they may even be noticed in these monochrome reproductions; the left-hand bird being in each case the quasi cock, while that on the right or standing alone is the apparent hen.

About this time the cock caught sight of the lens staring at him, and was on the point of taking flight—more than once he bent his legs and raised his wings preparatory to springing—but his wife's unconcern somewhat reassured him, and instead he walked to the near edge of the nest, and leaning forward examined the apparatus minutely. Satisfied that there was no immediate danger, he stepped slowly back to the far side, and kept gravely turning his solemn eye first on the camera and then on his wife, as much as to say, "Madam, what is this?" and soon after took his departure. Immediately before going and while standing on the nest-edge he made a peculiar clapping sound by rattling his mandibles together. Apparently this was a form of endearment, for she, raising her crest, always a sign of great emotion, responded in a like manner, gently

prodding him in the neighbourhood of his ruddy patch. The young now, as often, seemed to be in the last state of exhaustion (Plate 9), and lay prostrate and panting in the fierce sun; nor was it surprising, for to my knowledge they had had no food during nine hours.

Old birds were often to be seen flying about with long reeds trailing from their bills, and though some might be forming late second nests, others were certainly adding to those already containing eggs or young. The object of this was not apparent, but my pair were often similarly engaged, taking reeds from a disused nest near by.

I happened to notice as one carried a reed in its bill, that though the mandibles were about a quarter of an inch apart in the middle, where they were gripping the stem, at the spatulate end they were closed! But since this was double the distance from the point of turning, the space between the spatules should have been half an inch. It meant that either the mandibles must be jointed at some point at or beyond the middle, and have muscles attaching thereto, or else that they must be curved or bowed, meeting only at their extremities. This latter alternative, unlikely though it seemed, proved to be the right one. The birds seldom turned sideways towards me, preferring to keep the "thing" straight in front of them, but occasionally they did so, and I was then able distinctly to see between the mandibles the stems of the reeds beyond, although the spatulate tips were closed. Since our return a number of stuffed Spoonbills have been examined, but there has been no indication of this curvature and lack of meeting of the mandibles. Nor is it surprising, for a taxidermist, on finding that the bills were slightly bowed, would naturally put this down to shrinkage after death, and use his skill to make them "right" again.

When the cock returned, I could see by the bulkiness of his neck about the ruddy band that he had not come empty. For a while he hardly noticed the exhortations

of his mate, and seemed as usual to be dreaming, but one prod rather more vigorous than the rest recalled him to the present and the needs of his family, and with a flapping and gaping like that of his mate he prepared to deliver what he had brought. The young, on seeing him imitating the actions of their mother, were, for young Spoonbills, highly delighted, evidently knowing that this was grace preceding meat. And sure enough, after one or two sideway shakes of the head, he stooped down and with a few vigorous gulps opened his bill, at the base of which the chicks found much that was to their satisfaction (Plate 10). The manner of feeding was quite distinct from that of the cormorant-like birds, where the young thrust their heads far down their parents' distended gullets, for here the food was regurgitated into the top of the throat and the trough at the base of the lower mandible, whence the young could pick it out without their heads entering the throat at all.

It was with somewhat wistful feelings that we poled our way out of the reeds that evening, and looking back across the lagoon saw for the last time the great white birds circling above their nursery (Plate 11).

But before leaving them, lest through recording some unusual incidents in their home-life, I may have given a somewhat distorted idea of the true nature of these birds, I hasten to add that, for silent dignity the Spoonbill stands out pre-eminent from all others we have met. Whatever they do, even when clamouring excitedly for their stolid mates to disgorge, there is nothing rough or savage in their manner, but rather a tone of gentleness. Never have I seen such silent birds, not even when their colony is being raided do they raise a cry, but fly mutely round and round with outstretched necks. True, to be exact, their silence is more a necessity than a virtue, since they are possessed of no true vocal organ, but it so befits their other actions that it may well be laid to their credit without too close examination.

THE HOME-LIFE OF THE WHITE STORK.

NOT far from the hostel where we were staying, and on the outskirts of the little village of ———, is an avenue of immense aspen poplars, whose great height and uniformity at once arrest the attention. At some previous time their tips have been sawn off, and each now terminates in an abrupt and bushy head. Planted only thirty or forty feet apart, their branches meet almost from the ground right up to their summits, obscuring the trunks, the whole forming one mighty wall of foliage. While admiring them, we noticed that in one midway down the row there was a something—a suggestive lump. It was impossible, owing to the great height and dense foliage, to say more, but the glimpse we could get left us content that it had come there by no other agency than that of birds. There was little doubt as to what the nest would be, and knowing full well in what high esteem, not to say reverence, the Stork is held on the Continent, it was thought advisable to withhold further investigations until a quieter hour. Accordingly late that evening we strolled by way of the poplar avenue, and when opposite the tree I slipped quietly from the other two, and was quickly out of sight amid the branches. The climbing was as laborious as it was simple, the very profusion of branches making it difficult to force a passage through, and it was long before I reached the nest. Here, however, as often in such cases, the real difficulty presented itself—the getting round or on to the nest to see what it contained. As can be seen from the illustrations, there were no branches above it capable of supporting a man's weight, and only after the liberal

use of a hunting knife did I succeed in making a way partly round and partly through the edge of the great nest.

It had been obvious for the last twenty or thirty feet of the ascent, from the whitened state of the branches, that it either still was or had but recently been occupied, though so far there had been no sign or sound of life, and it seemed likely that the young had flown. Cautiously I raised my head above the edge, and there in the centre of the great platform of sticks were three fully-fledged young Storks, sitting in a triangle with their heads together, gravely listening to the noise beneath (Plate 12).

Climbing down to within some twenty feet of the ground, there, as arranged, I "owled" softly. It was a warm still night, and I knew that the sound would carry far, but there was no answering hoot to signify "clear way." After a pause the "owl" in the tall poplar called again, but still there was no answer, and later again and again with no result. Not knowing what to make of it, I slipped down the last few feet, and dropping through the branches landed almost on the heads of a little knot of excited villagers standing at the tree-foot. It was now quite dark, and whether they or I were the most surprised is doubtful. The more excited they became the less could I understand them, and in the end I left them gesticulating wildly. The following morning the Burgomaster sent for us. Fortunately he could speak English, else we should never have made him understand our doings, but, as it was, on being assured that no harm would follow to the Storks, he was more than interested, and, giving his permission, wished us success. The news soon spread among the villagers, and they now assembled to watch the operation from a respectful distance.

To photograph the nest from the same tree that it was in being impossible, the only alternative was to try from the top of a neighbouring poplar, and after a number of branches had been lopped off we found that a fairly good view could be thus obtained.

There was, of course, nowhere to spread the tent, and the most that could be done was to tie it to the branches, and climb up inside it, fixing the camera to whatever offered. If the tent was small at the Spoon-bills' colony, it was much less now, and though I managed to get one leg doubled underneath me on the branch, there was no room for the other and it hung dangling down, and lacking ostrich-like faith in the covering of my head, I felt horribly conscious of it.

Climbing up that morning I had noticed that the young Storks were sitting in a peculiar posture on their heels (Plate 13), and later, when I had observed them longer, this proved to be a constant habit. Perhaps at first there sounds nothing very unusual in this attitude, but it must be borne in mind that the "heel" of a bird, properly so termed, is what is often erroneously called the "knee." Ordinarily, of course, a fowl only walks on its toes, what is known as the shank (viz., "sparrow shanks") being really the tarsus, or what in us is represented by the instep. Some birds, like the Auks, walk and sit on both toes and tarsi together, that is, on the whole foot, but these young Storks were resting on the heel, or what roughly corresponds to our ankle joint only, while the shank or tarsus was clear of the nest, and inclined upwards from it, often at an angle of as much as thirty degrees.

It seemed a most uncomfortable, not to say absurd position, for they were practically balancing themselves on two points, and a gust of wind was sufficient to upset them, and indeed on a windy day there was an incessant bobbing as first one and then another lost his balance, but even so for some reason they preferred the attitude and at once regained it.

The tarsus was often inclined so much upwards that the toes, although dependent from its extremity, did not reach the nest by inches.

Another attitude of which the young were very fond

was that of sitting auk-like on their tarsi. Plate 14 shows three so resting at one time, and if the positions of the legs and feet in the other photographs be carefully examined, the frequency of these two postures will be obvious. Nor did they content themselves with so resting, but when moving aimlessly about the nest they walked on their tarsi and, though less often, also on their heels.

For a while the Storks lay still, not knowing what to make of my movements, but when the novelty had worn off they began poking about in the nest-bottom seeking for any remnants of their early breakfast that might remain. Seeing that it was now 8.30 o'clock, and that I had already been over two and a half hours in the tree, I felt somewhat jealous of their occupation.

At ten o'clock further waiting was rendered useless by the sun going round and shining into the lens, but on attempting to get down I found that my left leg had lost all movement and sensation. It had been carrying all my weight and, being doubled up underneath me, had become so cramped as to be quite useless and without action, and it was with the utmost difficulty that I climbed down and reached the hostel; the villagers *en route* being certain that an accident had happened.

It was not until two days later that I again found myself creeping up into the hiding-screen. The young had been fed only a short time before, as they were still busy searching the bottom of the nest for any bits which might remain.

Neither on previous visits nor so far this morning had the old birds even showed themselves, and it was for conjecture whether their absence was due to alarm at my presence or not, and whether they had taken fright at the removal of the encircling branches from one side of the nest.

Shortly after seven all doubts were set at rest, for without warning one of the great birds pitched on to the

nest. The young were wildly delighted at this promise of another breakfast, and I am perfectly certain from the old bird's manner that she had not then noticed either the screen or the dangling leg of which I felt so conscious. Probably neither she nor her ancestors had cause to fear enemies lurking in the tree-tops, and so they passed unscrutinized.

The young were very clamorous for her to begin breakfast, or, rather, to allow them to begin. Quite at her ease she backed to the nest-edge, and leaning forward with distended throat prepared to spread the meal before them (Plate 15). Again the manner of feeding was peculiar, the chicks not taking it from the throat at all. When first she began disgorging they tried to do so, but without success, for her plan was otherwise. Shaking the long bill to and fro, the food was scattered broadcast over the nest, the youngsters scrambling for it like school children after nuts. Once their heads were down busily engaged in picking up the bits, she could disgorge at leisure, an occasional sprinkling over the top keeping them hard at it. The way they "scrummed" was splendid: heads in, wings raised, and down on their tarsi they pushed and struggled.

The exact nature of the food could not be seen, and it certainly differed in character from time to time, but it was constant in that it always consisted of small pieces—appearing to be tiny fishes no larger than a minnow and roots of some aquatic plant broken in short lengths—and generally was light in colour.

Once only did I know the old birds to bring any distinct and recognisable prey, which was on the fourth morning, when the hen returned with a tiny frog in her bill. It was no larger than a mouse, and looked an absurdly small morsel as the three big youngsters stared greedily up at it dangling from their parent's bill. This was the only time the old birds carried food up in their bills, it being always regurgitated from the throat, though I understand

that frogs, lizards and the like are always so carried, and in many places form the staple diet. More than once she returned with a sod, and this the young ones pulled to pieces, perhaps for the benefit of their digestions, while she stood admiringly above them (Plate 16).

The populace was now curious, and kept inquiring at the hostel as to whether, as the waiter put it, we had yet "justly sketched" the Storks, nor was the Press far behind, for one morning as he brought in the breakfast we noticed that Francois was bubbling with excitement, and, on being questioned, produced the local paper, pointing to a paragraph, the following translation of which our friend Herr Stavermann kindly sent across that evening.

"Since a few days three English gentlemen are lodged in the Hotel het Rechthuis, who occupy themselves with photographing birds in the meer. For some times they are there during long hours to wait for the just moment to take the photo. But sometimes it is also a dangerous work, at least there are to be found a few people who will have currage to do what they did Tuesday. One of them climbed up an enorm popular tree in which is found a nest of storks. Some hindering branches were cut away. In the meantime the gentleman who had with him his camera climbed to the very utmost top of another popular in order to wait there very patient until the mother Stork would have the kindness to bring food to their young ones. When we saw the gentleman climb down from the tree so fearlessly we thought that the most clever acrobat could not match him. But he had not yet reached his aim though he had spent some hours in the tree. But notwithstanding this he is not give it up." The simplicity of the climbing has already been mentioned, and from the above it will be seen that the continental Press, like our own, is not averse to colour.

Thunder was constantly about, and more than once

we had terrific downpours, during which the young Storks sat huddled together, the water running off their backs in little streams, but on no occasion did the parents shelter them, and though once food was brought during a storm, as soon as it was delivered, the old bird left.

Shortly after nine o'clock one morning a violent storm passed over, and in its wake the wind, always a trouble, increased to such violence that it was difficult to hang on, and I momentarily expected the whole apparatus to be blown bodily from the tree. The rain had now nearly ceased, but the Storks still crouched together low in the nest, not daring to stand up. Just when the gale was at its height the cock returned with breakfast and, although he found it no easy matter to keep his footing, frequently calling upon his wings to aid him in doing so, he seemed perplexed at the young ones not rising to meet him, and for a time would not disgorge. Finally, as they did not rise, he fed them sitting, with the storm roaring through the branches (Plate 17), ruffling all his feathers as he did so. Even when the food was scattered over them only one ventured to rise on the tarsi, the others pecking it up as they lay.

A pair of Tree-Sparrows (*Passer montanus*) had their nest in the bottom of the huge pile of sticks, and while waiting "for the mother Stork to have the kindness to bring food," their actions helped to pass the time and divert attention from my cramped and aching position. The very contrast between the two was interesting: the dignified and stately Storks on the first floor, and the busy impudent little Sparrow in the basement beneath. Neither took the least notice of the other, but I saw that the inherent caution of the Sparrow kept him safely out of reach of his landlord's bill. When the parents were absent the Sparrows made the most of their opportunity to gather any scraps of food or insects they could find on the nest, and although the young ones had a dig at them

now and then, the Sparrows were always too quick and took good care to be gone before the old ones returned, their hurried departure more than once telling me of the Storks' arrival.

The next morning was as mild and still as the previous day had been stormy, and the young Storks seemed to appreciate the change no less than I did, and evinced a lively interest in my doings (Plate 18), watching my every movement as I climbed up until I crept inside. In a few minutes the mother returned, but, much to the young ones' disgust, bringing with her only a billful of dead grass. Having scattered it in front of them, she tucked up one leg and stood in the position so dear to the artist, the chicks meanwhile playfully pecking at her dangling toes. It was while so standing that she first noticed the camera, and I am glad indeed that all birds are not as unsuspicious as she proved to be, else would bird-photography lose all its fascination. The apparatus did not trouble her in the least, and though the shutter's click each time caused a start and a tightening of the feathers, she relaxed again almost at once with scarce a glance in my direction. The second time I was in the tree she came sweeping up to the nest and in passing rattled the branches within a yard of my head, making me start violently, and yet on alighting gave not one glance behind her at the strange thing she had just passed.

The plumage of the old birds was always dirty, especially that of the female, and this was emphasized by the spotless brilliant whiteness of the back, wing-coverts and neck of the young, their breasts being somewhat soiled by contact with the nest. This difference is especially noticeable in Plates 15 and 16.

The morning was very hot, and the chicks seemed playful, taking diversion between meals, and incidentally a little dessert, by trying with some success to catch the flies which settled on their brothers' backs. The quarry was abundant and of many kinds, doubtless attracted by

the strong smell of the nest, which, like that of all large fish- and flesh-eating birds, was most offensive.

The chicks were now so far advanced as to be tentatively trying their wing powers in little flights across the nest (Plate 19), after each trip being greatly elated by the performance. While speaking of flight it would be well to notice that it has been stated by, and often copied from, a well-known authority, that the Stork leaves the nest with a spring, getting quite clear before it ventures to expand its huge wings. But, as I have pointed out before (see *Country Life*, June 11th, 1910), the wings are raised previous to the springing upward, and not after the bird has left the nest. The positions of the wings in Plate 20 are somewhat difficult to follow owing to their being mixed up with the dark foliage, but if carefully examined, it will be seen that not only have they been spread, but that the first downward beat is nearly complete, while the feet are only now leaving the nest, the spring being still in progress.

THE HOME-LIFE OF THE COMMON HERON.

PARTLY on account of its excessive wariness, and partly owing to its checkered history in the past, the Heron has always been a bird of much interest. In former times it enjoyed an especial measure of protection, being regarded as royal game, but now, when the breechloader has ousted the falcon, and the splendid art of flyfishing has justly reached such popularity, the poor old Heron finds himself, like the ministers of old, gone out of favour, and, like them, with his neck sorely in danger.

His case is somewhat peculiar, for in years gone by he was protected in order to be destroyed, but though he has remained the same Heron through the centuries, the pleasures of fickle man have changed, and now almost every man's hand is raised against him, at all events the angling fraternity, and they in velveteens are clamouring loudly for his blood, and now in this twentieth century it is necessary to protect him not *for*, but *from* destruction.

It is fortunate indeed that the heronries now left to us are, for the most part, found on large and ancient estates, where, if for no other reason, they are appreciated owing to the traditions and associations attaching to them.

For years we had been waiting to make the closer acquaintance of this wary bird, but it was not until March 17th, 1906, that we began operations.

As the date indicates, the Heron is a very early breeder, and at this time the nest we had selected already had four eggs (Plate 21), but, as subsequently appeared, the bird was still laying, for a fifth egg was added two days later.

Hardy birds, they, like Ravens, seem to care little about the weather, and I well remember in a little wood far up on the fell-side having to knock the freshly-fallen snow off the branches before climbing up to a Heron's nest, and devoutly wishing for the same immunity from cold hands as these birds enjoy with regard to feet. But the heronry in which we were interested was in a milder and more pleasing situation, nicely sheltered in an ancient oak wood standing near the banks of the beautiful river Tees. There were some twenty nests, all in huge oaks, and each in the topmost branches. In passing, it may be noted that neither here, nor elsewhere, so far as I have seen, were any nests placed against the thick main stem, but always at the very top or in an outspreading limb.

On this account, since the nests were in the highest branches, we were for a time beaten to find any point whence a view on to a nest could be obtained. The only tree which seemed to offer a chance of success was one forking into two slightly divergent stems at a point some two-thirds of the way up. One of these limbs continued the vertical course, while the other sloped slightly away from it, and in the very extremity of this inclined bough a nest was built. On reaching the top of the vertical limb it fortunately proved to be of sufficient height to enable me to look across on to the nest. It was not the most convenient of places to erect a camera, much less so to fix it firmly enough to withstand the swaying of the branches in the wind, but after the expenditure of much time and string it was deemed secure enough to leave.

It looked rather a staring object standing in black outline against the sky, and with the exception of climbing up to see that all was well, we left the owner of the nest in peace until the 21st. Then a screen was built in a bramble thicket some twenty feet from the tree-foot, whence a clear view of the nest could be obtained by one lying looking upward. This done, another week

was allowed to pass in order that incubation might advance and to give the Heron time to get quite familiar with our apparatus. Then, on the 28th, we made the first attempt at portraiture.

The birds were very agitated, flying slowly round and round at a great height above the wood, like Rooks "turning the wheel." The shutter set, the dark slide inserted, and the lengthy pneumatic release all coupled up, I was soon on the ground again, creeping into the bramble thicket. Even while so doing some of the Herons alighted on or near their nests, and there seemed little doubt from her actions that my bird ere long would do the same. But it was not to be; morning turned to afternoon, and her only advances had been to flap leisurely by at intervals, and when six hours had slowly passed without her return it was thought advisable to remove the camera and withdraw lest the eggs should be rendered lifeless through too long exposure.

During the day my brother had been watching the movements of the old birds, presumably the cocks, which were off duty. These passed the time dozing in the centre of a large flat field. One or two appeared alert and on guard, while the rest, standing close together, slept and basked in the sun. It seems odd that these birds should leave the safety of the trees and come to take their siesta on the ground, where, but for the vigil of the sentries, a fox might seize them. Can it, I wonder, be a trace of former terrestrial habits?

To the superstitious April 1st was hardly a propitious day on which to attempt the portrayal of so shy a bird, but as events proved the Fates were kind. This time, thinking that it might be our movements about and in the tree which caused the birds so much alarm, we got everything possible ready before entering the wood, completing the adjustments in the tree with the utmost despatch.

Nor were we disappointed. Within half an hour of

retiring the bird flew up and almost alighted, but at the last moment, thinking better of it, she resumed her course. Rather more than an hour passed without her reappearance, and I must have momentarily taken my eyes off the nest, for hearing a slight noise overhead, I looked up and had the rare pleasure of seeing her standing on the edge of the nest, stooping forward to survey its contents (Plate 22). Unfortunately, after each exposure it was necessary to climb the tree in order to change the plate, and this meant renewed alarm on the part of the bird, and a consequent lengthy wait for her return.

This bird, or I should say, these two birds, for it was found that both took part in incubation, were the most exasperating of any we have met, for instead of getting more familiar with the camera's presence, their fears steadily increased until on our next visit they absolutely refused to return, only flying past the nest a few times during the eight hours I was in hiding.

A pair of Carrion-Crows, which had their nest, now almost completed, at the other end of the wood, helped to pass the time. On seeing these Heron's eggs so long untended they began to take a keen interest in them, wondering if in truth they were deserted. At first they just flew quickly over, one following the other at a distance, each as it passed turning its evil head to stare greedily at the pale blue eggs lying in the nest. Gradually they became bolder, flying together and more slowly. Little by little they poised in their flight and seemed about to alight, but as often courage failed them, and they flapped on, low over the trees. Then they tried to exhort each other, flying boldly up and cawing loudly, scolding each other when they passed; but it was no use, they dared not take the final step. Often they got as far as to drop their legs preparatory to alighting, and as often at the last moment thought better of it, and with desperate flapping managed to resume flight.

When this first began I felt certain that my birds would come hurrying back to wreak vengeance on these sombre egg-thieves, but, if they saw them, they paid no heed. And, what was more, the other Herons sitting on their nests close by, some within a few yards and in full view, calmly watched the whole proceeding without a sign of interest, anger or alarm, and never raised a feather to save their neighbours' eggs!

Four days later found us at the wood again, and this time I noticed something peculiar about the nest. On the near side of it, next the camera, was a little wall or heap of dead gorse branches, and seeing that it would obstruct the camera's view of the sitting bird, the greater part of it was removed. All had not been quiet long before she dropped on to the far side of the nest, apparently at her ease, but on noticing the absence of the gorse her attitude at once changed and, instead of settling down, she walked on to a near branch—from there, for a long time, eying first the camera and then the nest. At last she was satisfied, and once more walked on to the edge, and in another minute, tucking her long legs under her, quietly sat down (Plate 23). Not till then did I realise the meaning of that little wall of furze branches. It had been so placed that, when sitting, her head would be screened from the horrid eye of the camera staring across at her.

The bird, hating to face it, had built the little screen, so that, when sitting, her head might be out of sight; this accounted for her reluctance to return on noticing the removal of the branches. A sprig of gorse still remaining can just be noticed below the eye.

This is crediting the bird with acting with a motive and with no small powers of reasoning. Nor am I afraid to do so, feeling assured that as we come more into sympathy with wild creatures the less dissimilar in character shall we find them from ourselves.

On the 11th of April the first chick appeared, that is

23 days after the laying of the last egg, the remainder all being hatched two days later. This gives a possible maximum incubation period of 25 days, and a minimum of 23 for the last laid egg, either of which is less than that generally ascribed to this bird.

At a casual glance the flight of a Heron seems somewhat slow and laboured, but it is in reality very powerful, and though the beating is slow and heavy the great wings carry it along at a far faster rate than is often imagined. They travel great distances in search of food, and we constantly saw the birds from this heronry fishing the shallow moorland streams some 12 to 15 miles away, and hear that while the young are in the nests they nightly visit a feeding ground full 20 miles distant.

That Herons destroy a large number of fishes, more especially trout in the moorland burns, there is no doubt, and it is a great pity they range so far afield during the breeding season, for however willing the owner of the estate whereon they build may be for them to share his fish, he cannot instil the same magnanimous spirit into all the landlords and tenants with a 20-mile radius. And so it too often happens that as a gun's report echoes over the fells it proclaims a handsome addition to be nailed on the game-keeper's "larder," and at the same time foretells of a family far away in the great oak wood left to die a miserable death by slow starvation. More than once I have found shrivelled little bodies lying in the great flat nests—mute testimony of such a tragedy.

Six weeks passed by before we were again able to pay the heronry another visit, and now as we moved beneath the trees we could see the long thin necks of young Herons thrust up above the edges of the nests, while here and there others more advanced were perching in the branches near at hand. There were necks protruding from our nest, too, but as we neared the tree-foot they were with-

drawn, probably in obedience to the old birds flying overhead. Knowing that by now they might be able to fly, I climbed up very cautiously, but the moment my head came within their view the youngsters, which had been crouching low in the nest, sprang to their feet and flapped headlong forth. The two most forward were now well on the wing, and had little difficulty in reaching a neighbouring tree. A third hesitated in taking flight, and though eventually he tried to fly, dared not loose his foothold on the branches, and so, instead of flying outwards as intended, he simply swung round head downwards, his anchored feet acting as a pivot.

If before he was afraid to let go his hold, he had good cause to cling tightly now, and he hung there head down, like a bat, panting with fear. For several minutes at a time he would keep still, then followed a violent burst of flapping, during which he struggled hard to get his bill hooked over the branch his feet were on; but it was no use, his legs were far too long, he simply could not reach it. His feet, unlike a Tit's, were never meant for such acrobatics, and his grasp, at the best but weak, now gave out, and he fell flapping some ten feet or more, catching among some lower branches. Here he remained until a movement on my part again scared him, and this time, trusting to his wings, he took flight, joining his brothers in the opposite tree.

The fourth was more timid than even this last had been, and dared not try his wings at all, but edging sideways along the branches as far away as possible, sat there fearfully regarding me (Plate 24). Meantime the three others in the neighbouring tree had been climbing about, and now catching sight of another nest near to them were eagerly making for it. The position of this nest happens to be indicated on Plate 21, and can, perhaps, be made out in the extreme right-hand top corner. It looks like a small thickening in the branches and, as a guide, some of the whitened sticks of the nest are showing,

as are the droppings on the limbs beneath. As indicative of the height of these nests, it will be noticed that the photograph is taken looking right over the top of the wood on to the country beyond.

There were already four youngsters in this nest, but one by one my three reached it and climbed in, and though there was a little scimmaging at each fresh arrival, they quieted down, and soon all seven were contentedly sitting in the nest. I was very curious to see what the old Heron would do when on her return she found this increase in her family, but after reaching the hiding-screen I had long to wait. Towards evening there was tremendous excitement through the colony, the young in all the nests standing up craning their necks as an old bird flew low over the wood with a rat in her bill. Her home was but a few trees away, and I was able through binoculars to watch the struggles of the youngsters as they tried either to swallow or tear the rat in pieces. Often two had hold together, tugging against each other, but they could make no impression on it, and their mother, seeing it was more than they could manage, took it in her bill and to the chagrin of her family flew off. While this had been in progress the seven in the neighbouring nest had been almost beside themselves with envy, and though they could all find room when peaceful, now, in the excitement, one or other was constantly being pushed out, only to regain his place after a desperate struggle. When thus striving to climb back they freely used the bill as a supplementary hand, and without its aid could never have got back. Not only did they seize the branches with it, helping to pull themselves up thereby, but derived their chief aid by hooking it over a branch and with the purchase thus obtained managed to wriggle up.

My solitary young one also shared in the general excitement, craning his neck to watch the fate of the rat (Plate 25).

At the foot of the trees were a number of food pellets, for Herons, like Owls and Hawks, get rid of the bones and other indigestible portions of their swallowed prey by ejecting them through the throat. If carefully examined these castings are a fairly true index to the bill of fare of the ejector, but it must be borne in mind that food possessing no parts adamantine enough to withstand the gastric juices of a Heron's "stomach" will be unrepresented in these pellets. Thus the bones of small fishes appear to be dissolved, it being principally the larger ones and those of animals and birds which are found in these pellets. On the whole these castings are far tougher and more glutinous than those of Owls, and are moreover very irregular in shape as well as size.

It is significant that the matrix is nearly always the tough wiry hair of rats, whose bones also naturally figure abundantly in the collection, and the birds must therefore do a good deal of useful work, for which they receive little or no credit.

Now the old birds began everywhere to arrive with food, and all was turmoil. The owner of the invaded nest approached, and though greeted with a wondrous storm by the ravenous seven, did not appear to notice the augment to her family, feeding them all without favour. Then my bird returned, alighting in the branches near, and regarded the empty nest for a while, then, ignoring the odd chick's presence a few feet away, flew across to the clamorous nest-full opposite, where she too fed the multitude without discrimination. This was repeated several times, until my chick, empty in stomach as he was, lost heart, ceasing to take much interest in his mother's actions, and sitting stolidly on the branches brooded over his ill-luck (Plate 26).

THE HOME-LIFE OF THE PURPLE HERON.

“WELL, I always did say as how you were fond to spend your time rolled up like a handled hairy-worm in one of them tents, but to go hundreds of miles to picture a red-hurin beats all,” such and much else was elicited from an old keeper friend by a chance remark on our return from the Low Countries, regarding the Roodreiger, or Red Heron, of the Dutch. There was but one “red-hurin” to him then, and though now he is fully acquainted with its double significance, he never fails to tell the story at our expense, and with its piscine meaning.

Of course the Roodreiger is one and the same as our Purple Heron (*Ardea purpurea*), but here it must be admitted that they on the Continent have named the bird much more accurately than have we. See him standing on the top of a willow bush in the full sunshine, and you will not wonder that a people with an eye for colour, called him the Red Heron.

It seems to be generally believed that the species does not nest in trees, but only on marshy ground or among reeds, and, further, that it does not breed in large colonies, not more than six or seven pairs nesting together. This may hold true in respect to some localities, but certainly neither rule has obtained where we have met the bird. It may be that where the ground or reed-beds is the chosen site, they do not congregate closely in greater numbers than a few pairs, scattering themselves in twos and threes over a large area, and this would be consistent with those we have seen so building, and that it is only when departing from such lowly sites, and selecting trees or bushes, that they form large colonies. Be this as it

may, the colony whose movements we are about to follow, numbered at least fifty pairs, not one of which was nesting on the ground, all being in the tangled sallow willows. Some, it is true, were little higher than those placed elsewhere in the marsh on broken reeds, but others were seven feet or more above the swamp. Whether raised one foot or six, these nests in the willows showed a marked dissimilarity, by nature of their better workmanship, from those among the reeds. The latter were simply a fashioned pile of rush stems resting indiscriminately on numerous broken upright stalks, while the former were built and woven in the forks and branches. They differed much in size, some being of the scantiest description, reminding one of the architecture of a White-throat on a much-magnified scale and without its symmetry; others were really well formed and bulky, and might have passed for those of the Grey or Common Heron. All were alike, however, in being composed throughout of dead reed stems.

The colony rose *en masse* when we were some fifty yards away, and hovered in a flock above the nests, gradually retreating as we approached. A number settled on the tops of the tallest bushes and eyed us motionless from there. The others on wing overhead kept up a constant din with their hoarse and guttural croaks.

At the time of our visit nearly all the nests had or had had young, but the few still containing eggs for the most part also had a chick or two, often of no mean size (Plate 27). In some of these remaining eggs could be heard the tapping of the youngster's bill inside, signifying that he too would not be long before he made an appearance.

It was noticeable that there was often much variation in the ages of the chicks in the same nest, the foremost being at times four or five times as great in bulk as the least. In rare cases this may be due to an odd young one returning to the wrong nest, though, from what I subsequently saw, this rarely happens.

The chicks were terrified at our approach, and those not old enough to get away crawled about the nest in abject fear or lay trembling, clutching anything within their reach.

In common with all young Herons, they are hatched as helpless ugly little things, with scarcely any down to hide their naked ill-fitting skins, and as they crawl slowly about the nest, staring upward with their cold fish-like eyes, one is forcibly reminded of the reptilian ancestry of birds.

There was not a single nest in the whole colony which had eggs only, therefore we had no option but to set up the tent to one containing young. It was difficult to know which to choose, as nearly all were empty, the occupants having left on our approach, and at this time we did not know whether the larger and feathered young would again return to their homes when all was quiet. So, though the elder ones would have been the more interesting, we selected a nest containing small chicks and opposite to which grew a large sallow bush. By lopping off a branch here and there we managed to get the tent erected right inside the bush, and when one or two others had been cut down and propped up against it, we ourselves could hardly see anything more unusual in it than a densely thick patch of sallows.

Our guide was very doubtful whether the birds would return, thinking that the excessive bulk of the screen would cause them too much alarm. We were therefore not a little relieved the next morning to find that the young had full—yes, very full—bellies; but though glad thereby to learn that they had not been forsaken, this same fulness was in itself a serious handicap. Young Herons are not fed very frequently during the day, and we knew only too well that in their present gorged state they could without harm last till evening, should their mother see reason not to return. Something had to be done so that those chicks would be clamorous before long, and, having no castor oil or salt and warm water

handy, and a finger in the throat giving them no other sensation than a desire to swallow it, we were forced to resort to violently frightening them, whereupon the more portly, with much gulping, parted with their last meal. Naturally they were "a bit sick" at having thus to lose what was their only pleasure in life, and for a time sat gloomily in the nest.

We need not follow in detail all those long hours spent in the sallow bush, extending as they did through many days, for, however fascinating in the doing, it would by the very nature of it be somewhat of a repetition, and might be wearisome in the telling.

Suffice it that for some time after my friends had closed me up and left all was quiet, the old ones flying to and fro overhead, being able by some means to instil silence in the young ones, but as soon as the Herons began to settle on the tops of the neighbouring bushes it was the signal that danger was over and that each chick might proclaim his needs or feelings as he thought best. Then began the most extraordinary concert I have ever listened to. From the old birds in the bush-tops, from the almost naked little beggars in the nests, and up from the dense undergrowth, where the big chicks were hiding, there arose the most wonderful variety of grunting, squorking and cackling that it is possible to imagine. Every kind of discordant sound that the ear is familiar with was there, from the grunting of a sow to the cry of a guinea fowl, and endless others beside.

My family was now rapidly growing hungry, and sitting up, greedily scanned the old birds flying around; but as time passed and none approached with food their hunger was only equalled by their rage. At last a Heron seemed to be coming somewhat in their direction—quite enough for the young to be convinced that it was none other than their mother—and on her passing without alighting their disappointment overcame their brotherly feelings and they set about each other with a will (Plate 28A).

I have referred to the larger young as being in the undergrowth, and the fact is that as soon as danger threatened all those which were old enough immediately scrambled out of their nests and, partly climbing, partly falling, reached the ground. Once down they made off as fast as their legs and the tangled stems would permit; not that this always signified a great pace, for in places the growth was so rank that they were brought to a standstill before they had gone many yards. Where the nests were most numerous we found distinct and well-worn runs through the undergrowth, radiating in every direction, often completely arched over and running tunnel-like from bush to bush. Along these highways the birds could travel fast, and in less time than it takes to describe four or five nests were emptied and the young had vanished.

These hurried descents were the cause of many a fall, the heavy fleshy youngsters reaching the ground with an audible thud, but with apparently no other effect than to quicken their pace when they regained their feet. Once, however, a fall proved more serious, the young one dropping between two converging stems and becoming so firmly wedged as to be unable to get free. The old birds took not the slightest notice on their return, and the chick must inevitably have died of starvation had we not extricated it before leaving. In another bush a little withered carcass hanging from a fork told of a similar accident to a less fortunate chick.

After a time the "concert" subsided, and many of the young began to return to their nests. It was one of the strangest and most fascinating sights I have ever seen in bird-life to watch these quaint forms stealing out of the undergrowth and along the alleyways through the vegetation. The whole swamp seemed suddenly alive with them. Whichever way one looked, there through the tangled reeds and salallows, could be made out a ruddy form creeping slowly along, and on listening, from every side, both near at hand and far away, came the sound of

stealthy steps. There was no hurry or disorder, but each seemed bent on some mission and passed quietly along.

Perhaps it was the rapid and complete changes—first the harsh cries and excitement of the angry Herons on their colony being invaded, then the long stillness, followed by the wild and discordant concert, and now this silent host wandering through the undergrowth, that made the whole thing seem more like a dream or a fairy play than a scene from living nature.

How long this silent procession might have continued I do not know, for just then the alighting of an old Heron announced the possibility of dinner, and each young one, fearful lest it might be his mother which had returned, had but one thought and wish—to regain his nest. Now, in the excitement, they again found their voices, and used them lustily, too. It is an easy matter to fall out of a nest, but some of the smaller ones now found it a much more difficult task getting back.

I was very curious to know how all these scattered chicks would find their right nests again, and I may here say that none were noticed on the ground looking as though they were lost, nor were any seen to climb unintentionally to wrong nests. This speaks very highly for their sagacity and sense of direction, for we must remember that they were moving amongst a forest of stems, all practically alike, up only one of which could they reach home. True, they occasionally climbed up the wrong branch of the right bush, and their look of bewilderment on reaching the top and finding no nest there was most amusing, as were the struggles of those which doing the same thing, saw their home a few feet away and spent an hour or more in vainly trying to find a way across the intervening space.

From the ready way in which they found their right tree again, and especially from their marked and uniform behaviour when on the ground, it was obvious that these terrestrial wanderings must be of fairly frequent occurrence.

My birds had not been down, and now, when the old birds were returning, became wildly excited. They seemed quite unable to recognise their parents, and every time an old bird appeared overhead the whole colony was thrown into a tumult, the occupants of each nest being firmly convinced that it was none other than their mother which was returning. When the right home was reached, and the rest of the colony realised that after all it was not their turn, instead of quietening down those within view of the banqueting party either stood up on the nest-edge, vainly trying to get across, or more commonly they blamed each other for having lost the meal, and a four or five-handed or, rather, "billed," fight began, not infrequently ending in the weakest going overboard. After each of these bouts they subsided, the conquerors sitting on the vanquished and all looking rather sorry for themselves (Plate 28B).

I have said that the young were not seen to climb unintentionally to wrong nests, the condition being inserted to cover the case of one large youngster which, when a nestful half his size were being fed, climbed up and settling himself amongst them received a portion with the rest, thereby showing that the parents' powers of recognition were little, if any, better than those of their ever hopeful children.

Sometimes a very large and forward youngster would walk over the bush-tops to meet his or any other mother, occasionally being rewarded by being fed there. But never were they fed on the ground or among the undergrowth.

These incessant false alarms by the advent of wrong mothers were most exasperating, not only to the youngsters, but also to myself, for I was equally unable to identify their parent, and each time one settled on the bushes I hoped it might be her. At last she came, alighting some twenty yards away, and immediately "freezing." There she stood outlined against the sky, motionless as a statue, with only her fixed yet searching

eye to tell of the vigil she was keeping. For full twenty minutes not one muscle relaxed, nor a blink crossed her eye. Had I been guilty of stealing her eggs I must have withered under that unending stare. Little by little she approached, at each stage "freezing" motionless, until again convinced that all was still, when another few steps were taken, followed by another interminable stare, and so on till finally she reached the bush, and stood statue-like above the nest, never glancing at the struggling chicks vainly trying to reach her, but glaring stonily at the camera. This was really too much for them, and then wild excitement, as usual, soon turned into so fierce a struggle that it seemed an eye or two must surely go. The largest were soon on top, and seizing each other by the bill fought savagely for the mastery (Plate 29), pounding on the smaller ones the while. The frightened head of one of these down-trodden unfortunates is just discernible above the nest-edge and between the two combatants. To do them justice I was never quite certain whether they attacked each other purely through spite and bad temper, or in their wildly excited state mistook each other for mother, and were vainly trying to get food. On the whole the latter seems the more probable motive, especially as these actions were the same as those with which their parent was received!

All at once the stiff statue-like bird above them relaxed her vigil, she was satisfied, and letting her beautiful plumage fall loosely about her, and with an air of easy contentment, she stepped down on to the nest and stood there admiring its ugly contents (Plate 30).

Few birds, other than Owls, can so totally change their appearance by the contraction or expansion of their feathers. One moment she was standing stiff and awkward, more like the handiwork of some third-rate taxidermist than of Nature, the next she was a creature full of graceful curves and soft rich colour. Even the cold staring eye had now assumed a more kindly expression.

Rough as the young are to one another, it is as nothing compared with their united treatment of their mother. As soon as ever her head was lowered within their reach, preparatory to disgorging, they, with one impulse, seized her by the bill. Sometimes four or five had hold together, pulling and jerking in opposite directions, their eyes almost starting from the sockets. Time after time she gently shook them off, but directly her bill came within reach again the young ruffians seized it and hung on. Willing as she was, it was impossible to disgorge with three or four of them holding the bill tightly shut. At last, while some were struggling together in the nest, she managed to get a little out, and, in the scramble for it that ensued, a great deal more; and, lastly, with a great gulp, a young jack pike (which subsequently was measured to be eleven and a half inches) landed on the nest. This proved too much even for a young Purple Heron. First one tried it and then another, some managed to get it a good third down, and sat with the rest of it pointing skywards until, almost choking, they had to give it up, whereupon, if not before, it was savagely seized by another.

When all were tired of trying and the pike lay idle on the nest, I thought that their mother would surely give them a lesson in the art of swallowing, even if only for her own gratification. But no, it was of no further interest to her and it lay there day after day getting "higher and higher" as with the incessant trampling of the feet it got flatter. Several of these pressed and leaf-like fishes were seen in other nests.

It should here be noted that though the usual method was to disgorge the food into the nest-bottom, the young picking it up from there, they were at times also allowed to take it from their parent's distended throat; this being of necessity the method when feeding on the bush-tops.

The way these birds, both young and old, travel over the bushes is very interesting. As has been noted, the parents alighted a long way from the nest and walked over

the bush-tops towards it. Ordinary as the proceeding may sound, there are few birds capable of doing it. They did not pass from branch to branch as a Parrot or Rook might do, but simply walked with outstretched toes over the thickest foliage *en route*, trusting that something capable of supporting them would come within the area of their enormous feet. It is a copy, adapted to arboreal life, of the methods the Brazilian Jacana uses to traverse the floating leaves of aquatic vegetation.

Until grown up they are a little nervous at starting (Plate 31A), and no wonder, for they rarely grasp anything, their only foothold on the branches being effected by the last phalanx and claw of each toe having a strong hooking action (Plate 31B). Indeed, it is an impossibility for them to grasp any small branch firmly, for the first, second and third phalanges are so long as to prevent the foot closing on any but a large object. The left foot in Figure 31A shows this plainly, for it will be noticed that it is only touching the branch on the top, the length of the second phalanx preventing closure. The other foot is being put tentatively forward, trying the ice, so to speak, before entrusting its weight upon the branches.

The enormous development of the toes, on which account the bird has by some been placed in a genus by itself, is well shown in both illustrations on Plate 31.

During the thunder showers, which were of frequent occurrence, the young, which appeared much to dislike rain, adopted a most peculiar attitude. Sitting, virtually on their tarsi, they huddled together in a ring in the centre of the nest with their backs nearly vertical and their shoulders touching, the long necks tucked away inside, each under its owner's belly. It was a very neat arrangement, the rain only falling on their steeply sloping backs was readily thrown off, while the heads were snug and dry out of sight in the tent-like interior.

One last point: the young hatched in nests placed in the great reed beds had rather different habits when alarmed,

leaving their nests only under great provocation. Of course there were exceptions, some going as soon as danger appeared, others even allowing themselves to be approached and taken by hand from the nest. These latter, in particular, adopted a Bittern-like attitude (Plate 32), with the bill held nearly vertically upwards, trying to make themselves as much like reeds as possible. Old birds were seen standing about the colony in this upright position when alarmed, and it may be of more common occurrence than is supposed, for if the positions of the eyes in the photograph be carefully examined, it will be seen that they are specially placed to suit this attitude and give the bird the same double focus of an enemy as when the head is horizontal.

Just as an Owl sitting thin and gaunt against the stem of a fir tree will imperceptibly turn its head to follow an intruder, so did these Herons always contrive, without apparent movement, to face one squarely, their two eyes always staring straight at you from each side of the upturned bill.

PLATES.



Built on the stumps of last year's broken reeds.

Plate 1



She stood looking at the camera.

Plate 2



Weird little creatures crawling slowly about the nest.



Standing motionless, paying not the slightest attention to the clamorous youngsters at her feet.

Plate 4



Doubling her long legs under her, sat down.



Peering anxiously out awaiting release.



Stepped astride the chicks and half dropping her wings,
crouched over them.

Plate 7



He was soon beside his mate.



The young were now in the last state of exhaustion.

Plate 9



At the base of his bill the chicks found much that was
to their satisfaction.

Plate 10



Looking back across the lagoon at great birds
circling above their nursery.

Plate 11



Sitting with their heads together gravely listening to the noise beneath.

Plate 12



The young were sitting on their heels.



Sitting auk-like on their tarsi.



Leaning forward with distended throat prepared to spread the meal before them.

Plate 15



She stood admiringly above them.



He fed them sitting, with the storm roaring through the branches.

Plate 17



Evinced a lively interest in my doings.



Tentatively trying his wings in little flights across the nest. Plate 19



The wings are raised previous to the springing upward.



The nest contained four eggs.



Stooping forward to survey its contents.



Tucking her long legs under her, sat down.

Plate 23



Edged sideways along the branches, and sat there
fearfully regarding me.

Plate 24



Craning his neck to watch the fortune of the rat. Plate 25



Sitting stolidly on the branches brooding over his ill-luck.



Containing eggs and a chick of no mean size.



They set about each other with a will. (a)



The conquerors sitting on the vanquished, all looking rather sorry for themselves. (b)



Seizing each other by the bill, they fought
savagely for the mastery.

Plate 29



Stepped down on to the nest and stood there admiring
its ugly contents.

Plate 30



A little nervous at starting.



The claw of each toe has a strong hooking action.



A Bittern-like attitude, with the bill held vertically.



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